ABSTRACT OF THE DISCLOSURE

A network switch system that includes a plurality of first-level switches operating in a slave mode, the first-level switches providing a plurality of local ports for receiving and sending network packets, and a plurality of second-level switches operating in one of brain mode or master mode, wherein, the first-level switches includes a plurality of upward ports connecting to the second-level switches, each of the first-level switches and the second-level switches having a forwarding database, wherein the first-level switches sends the refresh packets to the second-level switches for synchronizing the forwarding databases of the second-level switches, wherein the second-level switches providing packet communications among the first-level switches, and wherein a second-level switch operating in the brain mode providing refresh packets to the first-level switches for synchronizing the forwarding databases of the first-level switches.

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